plane
GRUMMAN
news

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The beginning and the end; in between— 'smashing success'

Right on the button! Right on time!

Kitty Hawk splashed down in light Pacific seas at 4:05 p.m. Eastern Standard Time Tuesday—very close to its primary recovery vessel, the U.S.S. New Orleans.

The pin-point accuracy of the splashdown and the speedy recovery of the three Apollo 14 astronauts capped a dramatic flight that was a cliff-hanger at times but resulted in a brilliant mission.

It was "a smashing success!"

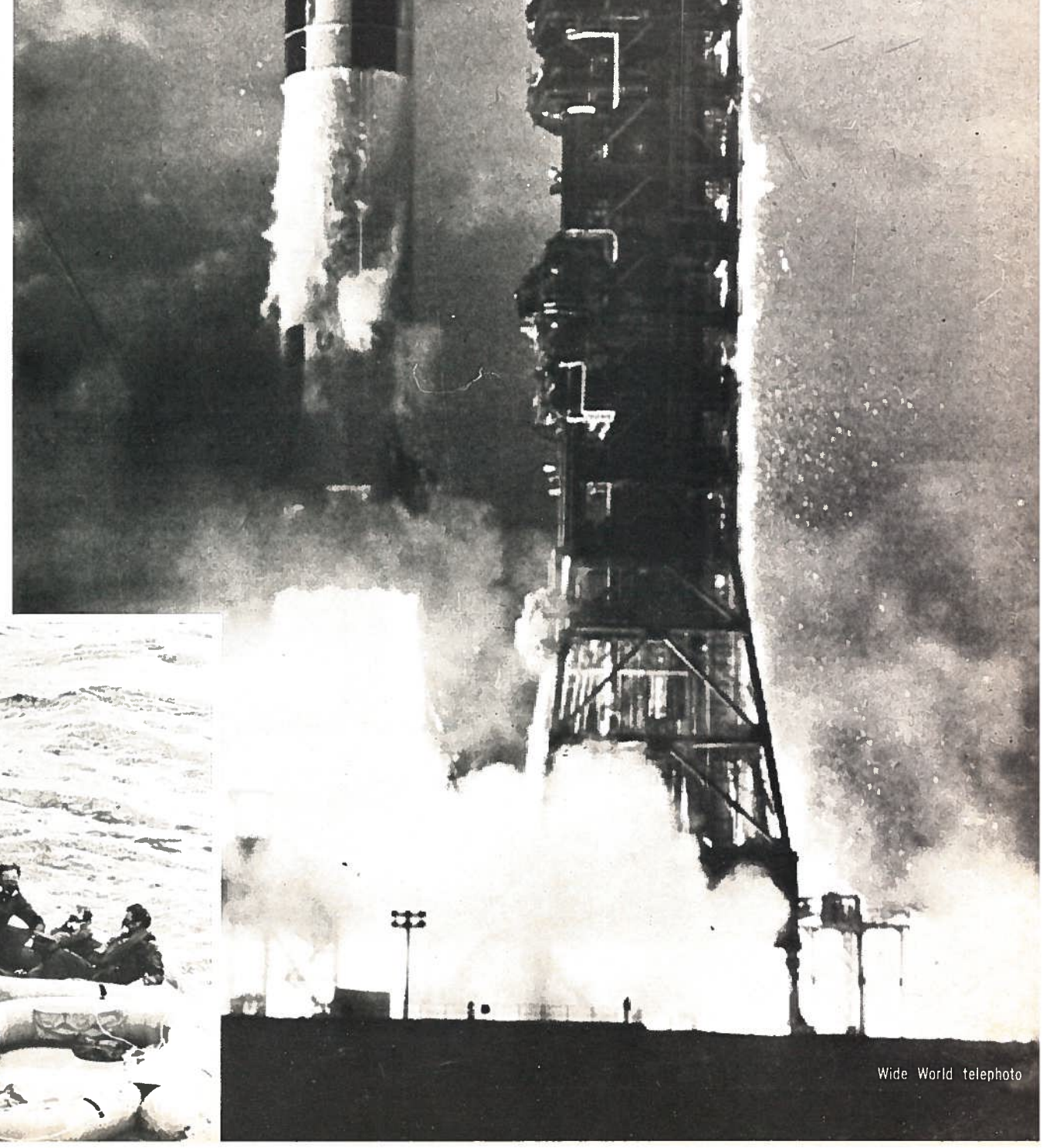
That's the way Spacecraft Commander Alan Shepard Jr. expressed it during the world's first out-in-space "press conference" the day **before** splashdown.

He and his two crew members—Lunar Module Pilot Ed Mitchell and Command Module Pilot Stuart Roosa—might now be thinking of even headier language than "smashing success." And so might others.

That it was, indeed, a success seems incontestable. Take the lunar walks, and the one that almost got to the rim of Cone Crater. Did "almost" mean a marred mission? Evidently not, for as scientists remarked while the astronauts were in space and on their way home, the rocks and lunar material collected by the moonwalkers near Cone Crater are probably of the same basic type as those at the rim. So it's likely that the scientists **will** be able to judge whether our satellite has been around for about four and a half billion years.

Success had its trying moments, though.

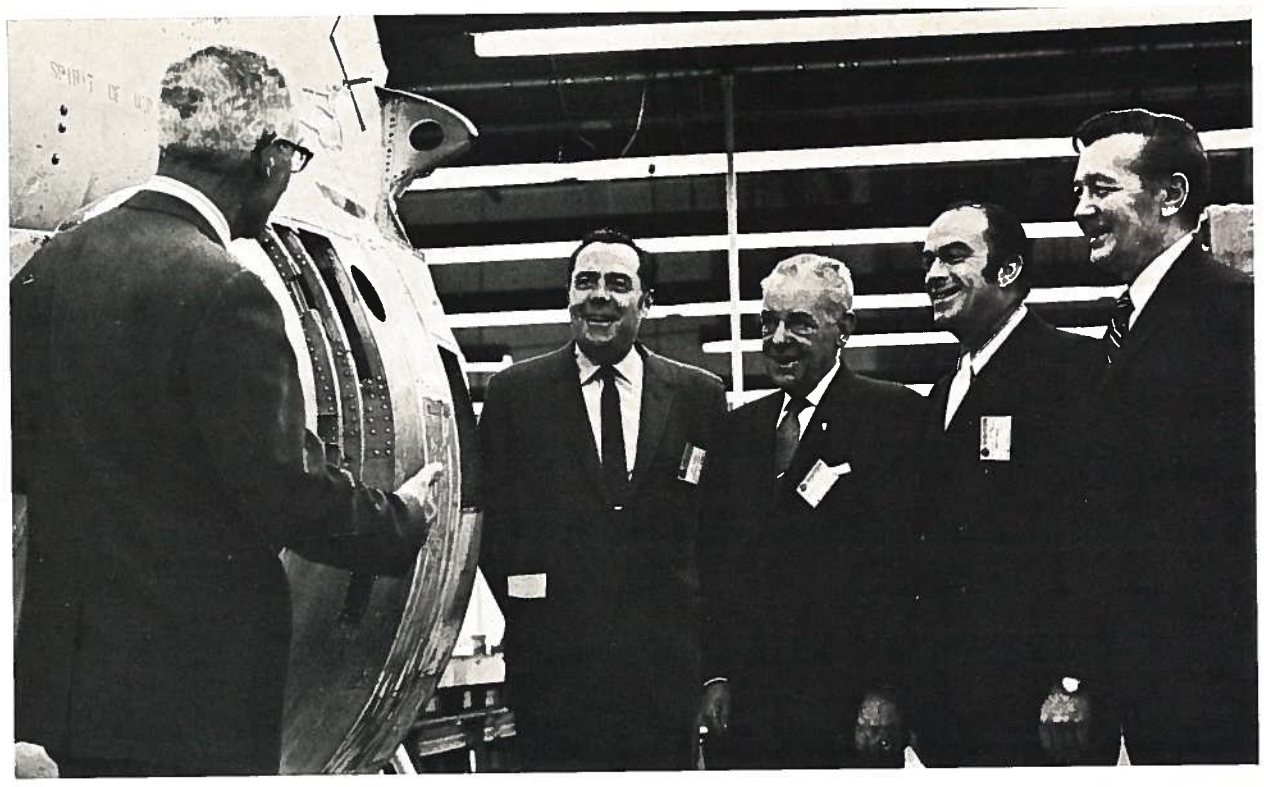
(Continued on page 6)



Wide World telephoto

UPI telephoto

Corporate Training goes commercial — offers services to outside agencies



Open to public. Director of Training & Development, Art Gilmore, explains a new sheet metal technique to (L to R) Michael J. Petro, Nassau deputy Commerce commissioner; Robert Kinkead, director, New York State Department of Commerce; Gilbert C. Hanse, mayor of Babylon Village; Vice President Jack Rettaliata.

Last Monday, February 8, Grumman welcomed its first students to a newly organized vocational school in Plant 38. As explained by Art Gilmore, director of Training & Development for Grumman, the move is a logical one in that Grumman already has the faculty and the equipment for training and upgrading its own men and women.

Grummanites will continue to have first claim on the training facilities, but to "take up the slack," the new Grumman Aerospace Training Center in Plant 38 will now offer, in the daytime, for a fee, these basic industrial courses for non-college-bound applicants:

- milling machine operation
- lathe operation
- essentials of digital computers
- electronics shop methods and cable fabrication

"We have been licensed by the New York State Education Department to teach these courses," said Gilmore, "and we anticipate referrals, under the Manpower Development Training Act, from the State Employment Service. Also, some small companies have indicated an interest in having us upgrade their employees in these or similar skills, or in training young people just out of high school to come aboard alongside older, more experienced workers. Our training is oriented to help a person get into a specific job with high industrial standards."

The Center offers no guarantee of a job, but its personnel will offer vocational guidance and aptitude tests and will work closely with the State Employment Office in Hicksville. Tuition for these concentrated eight-hours-a-day courses ranges from $220 to $520.

The Center is in Plant 38 on New South Road, Hicksville, just north of the Servo Building. Phone number is (516) LR 5-3823. Gilmore forecasts an upswing in industrial manufacturing on Long Island "following the Long Island Expressway out eastward" in the latter half of 1971, and he sees good prospects for the technically inclined to find job openings in Nassau and Suffolk Counties.

Set up department for 'measurements'

Bob Fitzpatrick, director of Quality Control, announced recently the establishment of a central department to direct and control all Corporate calibration and measurement standards activities. This new department, Measurement Standards, will insure the technical adequacy of measurement activity, operate supporting laboratories, control the recall of equipment, and be responsible for programming its workload and controlling its budget.

Frank Heuther is manager, and Frank Sciacchitano is assistant manager. Both report to Fitzpatrick. The Measurement Standards Department includes the following calibration functions, and, in brackets, the departments they were formerly located in: Instrumentation Calibration & Repair (Product Manufacturing); Measurement Sciences (Product Engineering); Laboratory Sciences (Flight Acceptance); Optical Metrology (Manufacturing Engineering); Linear Metrology & Calibration Management (Quality Control).

Guests. High school guidance people, small company representatives, town and state officials attended open house to learn about intensive courses to be open to the public. Don Warner, aircraft skills instructor (L), explains training. (Photos by Fred Annette)

Baker heads for Capital to serve on Government commission

At the request of Perkins McGuire, chairman of the Commission on Government Procurement, President Lew Evans has assigned Rick Baker, assistant director of Contracts, to work full-time with the Commission for six to nine months.

Baker will work in Washington, D.C., in a cost and pricing group that will be studying such matters as Uniform Cost Accounting Standards, "Should Cost," Renegotiation, and "Truth in Negotiation." The group is one of 13 under the Commission's wing.

The Commission was established by Congress to examine policy, statutes, and regulations dealing with Federal procurement with a view to making recommendations to Congress on enactment or revision or repeal of laws covering Government procurement.

A graduate of Brown University, Baker joined the Company in 1955. His responsibilities include policy formulation, direction, and management of Contracts Department personnel on Department of Defense, and National Aeronautics and Space Administration.

CALENDAR of events

Notice of events for period Feb. 26 - March 12 should reach Plane News by **Thurs., Feb. 18.**

Amer. Soc. for Metals: Wed., March 10, Holiday Inn, Plainview, cocktails 5:30 p.m., dinner 6:30 p.m., mtg. 8 p.m., L.I. Chap. Dr. A. Hershaft, Grumman, on "Ind. Pollution Control." Sustaining Members Nite. R. Maller, Ext. 7351.

Chess Club: Tues., 5 p.m., Plt. 3 Cafe, tournament, games. Alex Ikonnikow, Ext. 7592.

Coin Club: Wed., 12:05-12:50, Plt. 25 Vendor Conf. Rms. Ken Hale, Ext. 1936.

Ex-Servicemen's Club: First Mon. of month, 7:30 p.m., Plt. 28 Audit., exec. & gen. mtg. Al Kordula, Ext. 87259.

Human Factors Soc.: Sat., Feb. 20, 9-4:30 p.m., Met. chap., Howard Johnson's Motor Lodge, Clark, N. J., Exit 135, Garden State Pkwy., $6.50 incl. lunch & coffee. Bell Tele. Labs Staff on "Human Factors in Business Info. Sys." Jerry Fox, Ext. 9431.

Huntington Toastmasters Club: Mon., Feb. 22, 8 p.m., Allstate Bldg., Melville, 1st fl. Conf. Rm., internat'l., educational. T. Campbell, Ext. 3157.

Inst. Soc. of Amer.: Wed., Feb. 24, 8 p.m., Francesco's Rest.. Hempstead Tpke., Bethpage. Leon Weymouth of BLH on "Stress Strain Measurements." John Herba, Ext. 2275.

Rod & Gun Cub: Wed., Feb. 24, John's Oasis, Hazel St., 8 p.m., gen. membership mtg. Walter Schillinger, Ext. 57-617.

Ski Club: Wed., Feb. 17, 8:30 p.m., Holiday Manor, Hicksville Rd., Bethpage. Lee Badalamenti, Ext. 2171.

Stamp Club (Bethpage): First 3 Weds. of month, 5 p.m., Plt. 30 Cafe, swapping, circuit bk. sales, auctions. Marty Harow, Ext. 9172.

Wgt. Watchers: Every Tues., 4:45-6:45 p.m., Plt. 28 Audit. Mimi Ackerman, WW lecturer, Grummanites & immed. fams. Lee Badalamenti, Ext. 2171.

Outline plans for Space Shuttle in 2-day session with NASA

"They were impressed," is the way Fred Raymes put it following a two-day review of the Space Shuttle program with a National Aeronautics and Space Administration team headed by Dr. Max Faget of Houston, director of Engineering and Development.

Raymes, assistant director and study manager on the Shuttle team in Grumman, points out the importance of the effort: It could mean as much as $4-$5 billion; getting a good chunk of that funding will help the Company to play a meaningful role in the space business. "We have to come through with this one," he says.

The two other competitors for the Shuttle are McDonnell Douglas and North American Rockwell. And President Lew Evans has thrown down the gauntlet: "Grumman/Boeing intends to win."

There are about 50 Grummanites on board to make sure that that's the way it's going to be. A comparable number of people from Boeing, Seattle, have joined in—along with many people from other companies—to develop the Shuttle. In broad terms, Grumman is "systems manager" and in charge of the orbiter, and Boeing has responsibility for the booster.

Shuttle talk. **Tom Kelly, NASA's Dr. Max Faget, and Fred Raymes (L to R) listen very attentively to a Grumman presentation on how best to develop a Space Shuttle. (Photo by Harry Prodromides)**

From here on in, it's going to be especially tough. By next autumn, the ballgame should be over, and one of the three teams will reign as winner of the only big space program NASA has.

So to know that NASA was "impressed" by the work done by Grumman/Boeing was not only good news but a spur to meeting the study objectives:

- In-depth configuration design
- Subsystems characteristics and program costs of two-stage reusable shuttle
- Cost comparisons between internal and external tank orbiter configurations

About 35 Grummanites were on hand for the two-day session, headed by Senior Vice President Joe Gavin, director of Space Programs; Tom Kelly, deputy director; Fred Raymes, assistant director and study manager for the Shuttle; and Howard Wright, assistant director, who oversees technology and manufacturing methods. The NASA team was as large and included Faget, Contract Monitor Milt Silvera and his assistant, John DeFife, and O. C. Jean and Ron Crawford of the Marshall Space Flight Center. There were about 10 people from Boeing at the session.

Big effort

Grumman's report to NASA January 28 and 29 was that, after almost six months of study, 29 possible configurations had been reduced to just four. Of those, the Company thought the best one was a two-stage (orbiter and booster) fully reusable vehicle system **without** phased (stepped) development; that is, a system that did not use an existing Apollo booster.

There are several reasons for using the two-stage system: In the long run, it offers the greatest assurance of true low-cost-per-flight operation, eventual lowest total program cost, and fewest operational restrictions. Company studies see a 10-year program life as unrealistic, and therefore, a longer program life makes the most sense. The two-stage vehicle is planned for a life expectancy similar to that of an aircraft.

Also considered was a so-called stage-and-a-half concept (a single orbiter with expendable rocket engines or tanks). Although this thrust-augmented system was judged as most "cost effective," **assuming** that only economic factors are involved, it was not accepted for four reasons: relatively high cost per flight, operational restrictions caused by jettisoning of expendables, need for a second launch site, and practical inability to grow to a fully reusable system.

The original Space Shuttle study objectives were to:

- Define alternative space shuttle systems.
- Accomplish conceptual designs of the alternatives and define the total for each. (Systems studies were to stress such areas as structure, aerodynamics, thermal control, propulsion, and electromechanical systems.)
- Get an understanding of the scope, schedule, and costs of each alternative and perform comparative analyses among them.
- Understand the supporting research and technology that must be accomplished to carry forward the alternatives.

Economy is factor

Obviously, it was a large, complex effort, and one that had to be performed in severely telescoped time frame.

In a way, the overpowering constraint was (and is) money. Put another way, it's economy; or better, **tight economy.** In this time of budget cutting, bucks are the baseline.

So to build such a space vehicle as the shuttle, the designer and engineer and manager had to look sharply for trade-offs **and** new materials and processes. For example, they had to keep in mind that the shuttle had to use lightweight materials that could withstand many re-entries at temperatures up to 2,000 degrees F. There just isn't too much of that kind of stuff around yet, so you have to push the state of the art.

And since the shuttle is so large and complex, many companies in addition to Grumman and Boeing had to be called on for inputs, companies such as Aerojet General (for cryogenic tankage), Avco Corp. (for thermal protection systems), Avions Marcel Dassault (thermal protection and insulation systems), Dornier (for sub-systems technology), Eastern Airlines (for operations and maintenance), General Electric (for avionics), and Northrop (for orbiter technology). Then, the shuttle, in effect, is similar in challenge to Apollo in at least three major respects: design, materials, and management techniques; it's almost like "re-inventing" an Apollo vehicle and tying up all of its thousands and thousands of loose ends and then creating from that experience a thoroughly different type vehicle.

That requires large doses of imagination, a continuing search for better materials and processes, and a hell of a lot of very hard work.

On his team

At KSC, many of the Grumman team there are offering their prayers and other contributions to Pat Landry, a local high school football player who was seriously injured this fall. Pat is paralyzed as a result of the injury, and, according to Henry Morfin, if you want to help cheer up the young fellow, send a card or letter to him at Orange Memorial Hospital, Orlando, Fla. 32800.

'Indifference' troubles Moorer

Grumman President Lew Evans was among the group who recently honored Adm. Thomas H. Moorer, Chairman, Joint Chiefs of Staff, by the presentation of the Frank M. Hawks award of American Legion Air Service Post 501 in New York City. Admiral Moorer used the occasion to state his case for adequate defense in the face of the Soviet Union's advances in weaponry and technology.

Commenting editorially, the New York Sunday News said, "On and under the seas, for example, the USSR is dramatically increasing its strength while development of the U.S. Navy has virtually come to a standstill. Soviet industry, as Moorer also points out, has developed and produced seven types of fighter planes since the last new American fighter came out. . . .

"Why is there widespread public indifference to the obvious fact that we are engaged in a serious race with the Soviet Union on many fronts? Admiral Moorer suggests complacency and preoccupation with internal problems." The editorial quotes Admiral Moorer as saying:

"Now I think that we do have domestic problems. People are talking about the rearranging of priorities. But I can only say that no matter what problems we have, unless we provide for the defense of the country, then all other problems become moot."

And that is an old English four-letter word meaning "purely academic."

'Unless . . .' **At meeting of American Legion Air Service Post 501, Adm. Thomas H. Moorer, Chairman, Joint Chiefs of Staff, urged strong national defense as he accepted Frank M. Hawks Award. Grumman President Lew Evans (R) was there, as were Juan Trippe (L) of Pan American Airways, Col. Bernt Balchen, Post commander and explorer, and Harry Bruno (2nd R), aviation pioneer and author.**

CU boosts interest rate to 6% as shares, assets hit new highs

Some very big numbers sparkle in a review of the Bethpage Aircraft Federal Credit Union for 1970. "The value of shares, representing members' savings, increased by $1½ million during the year, and Credit Union assets increased by almost $2 million," reports John Fessel, secretary-treasurer.

A figure that particularly pleased Credit Union shareholders was 6%—the dividend rate for the quarter ending December 31. That rate is expected to be continued but must be voted on by the Board of Directors before the end of the present quarter.

A late development of interest to savers is that deposits are now covered by share insurance to $20,000 per individual account.

Loans to students for scholarship assistance, announced for the first time last fall, have reached $50,000, Fessel said. The directors have arranged that a maximum of $1,500 per academic year may be borrowed by the son or daughter of a CU member for purposes of higher education (if adjusted annual income of student and parents is less than $15,000). The student is held responsible for repaying the loan within a year after he completes his course of study or leaves school. Such loans are insured by the Federal Government.

Tom Gill of Corporate Development, Plant 5, is the new president of the Bethpage Aircraft Federal Credit Union, succeeding Bob Giles, who continues on the Board of Directors. Other officers elected by the Board following the annual meeting of the Credit Union January 28 are John Kost of Plant 2 Router Room, vice president, and John Fessel, who has been associated with the Credit Union administration since 1943.

Jump in assets

Credit Union is Big Business on the Bethpage scene, with 26,000 members and over $22 million in assets. The incoming funds were invested in loans to members and in federally approved investments.

Those elected to the Board of Directors for 1971 are, besides the officers: Bob Giles of Production - Budgets/Manpower, Plant 2; Joe Milillo, Corporate Suggestion Office, Plant 5; Miles Jacobson, Industrial Engineering - F-14, Plant 36; Cecil Davis, Contracts Termination, Plant 30; George Hennings, Critical Materials, Plant 30; Ray Montano, controller, Grumman Ecosystems Corporation, Plant 4 (replacing Gus Nyberg, who retired).

Credit Committee members are Art Westerfeld, Production Manufacturing Administration, Plant 2; Jim Roberts, Manufacturing Information Systems, Plant 22; Bernie Smith, Central Property Disposal, Plant 17.

The Supervisory Committee takes on a new look as Freeman Barnes, Corporate tax administrator and a 30-year man, steps down for lack of time to devote to the task. He has been chairman of the Committee for 21 years. Bob Freese, director of Finance & Financial Relations, was named to replace him, and Charlie Buxton, Grumman chief paymaster, and Howard Dunn of Corporate Audit and Procedures were re-appointed. Buxton has been on the Committee for 16 years.

Application forms for Credit Union membership are available in all plants, either at Employee Services Offices or administrative offices, and from the Credit Union building adjoining Plant 2.

Sound balance. **Directors of Credit Union, meeting after their election, are (L to R, front) John Fessel, secretary; Tom Gill, president; John Kost, vice president; (rear) Ray Montano, Joe Milillo, George Hennings, Cecil Davis, and John Kost. Miles Jacobson is also a director. (Photo by Bob Settles)**

BETHPAGE AIRCRAFT FEDERAL CREDIT UNION
Statement of Condition

ASSETS	1969	1970
Loans	$ 15,374,719.85	$ 11,389,423.77
Cash on Hand and in Bank	559,679.97	931,534.03
Government Agency Investments	4,403,843.75	9,691,412.50
Accrued Interest on Bonds Purchased	19,768,14	29,159.82
Earned Interest Accrued	88,970.51	227,811.12
Furniture and Fixtures	6,447.50	3,652.75
Prepaid Insurance	680.25	2,904.26
Other Assets	2,615.63	2,741.64
Due from Merrill Lynch	- 0 -	5,557.13
Leasehold Improvements	11,409.88	9,336.60
Deferred Expense	2,171.00	3,520.11
	20,470,306.48	22,297,053.73
LIABILITIES		
Accounts Payable	4,505.95	5,383.15
Shares	17,986,097.77	19,349,219.83
Regular Reserve	1,277,510.73	1,454,685.10
Undivided Earnings	752,208.03	1,013,550.76
Reserve for Contingencies	400,000.00	400,000.00
Reserve for Contingencies - Pension	32,634.00	25,382.00
Accrued Liabilities	17,350.00	37,674.89
Deferred Credits	- 0 -	11,158.00
	20,470,306.48	22,297,053.73
INCOME		
Interest on Loans	1,490,809.98	1,372,874.36
Income from Investments	221,932.61	499,540.37
Gain on Sale of Bonds	4,273.61	23,376.56
Other Income	- 0 -	880.46
Gross Income	1,717,016.20	1,896,671.75
Less Expense	408,706.25	449,546.31
Net Income	1,308,309.95	1,447,125.44
20% to Regular Reserve	261,662.00	289,425.09
Total	1,046,647.95	1,157,700.35
Less Dividends	804,300.45	943,400.96
Net to Undivided Earnings	242,347.50	214,299.39

Whidbey welcomes first EA-6B

The Navy's newest operational aircraft, the EA-6B, was delivered to Whidbey Island NAS for Fleet use on January 29. The occasion marked the beginning of a new era in naval aviation and the end, too, for Heavy Attack Squadron 123, the last A-3 Skywarrior squadron based there.

Attending the ceremonies to introduce two EA-6Bs to the Fleet were Senior Vice President Bill Zarkowsky; Vice President Bob Miller; Dan O'Neill and Jack Herman, Program manager and assistant manager, respectively; Tom Kane, director, Business Development; Roger Bush, program representative for Business Development; Bob McNeill, Field Service base manager.

Delivery of the new EA-6B makes Whidbey the only shore base anywhere supporting the EA-6B, which will now provide support to both the Pacific and Atlantic Fleets. The aircraft are assigned to a new squadron, Tactical Electronic Warfare Squadron 129, under the command of Cdr. Jack Blackwood.

The new plane, a modification of the A-6A Intruder, is considered the most complex electronic warfare aircraft in the Navy today. It requires a crew of four officers: pilot and three highly trained electronic warfare officers. EA-6B is an all-weather, twin turbojet electronic warfare plane designed for carrier and land-based operations, with tactical jamming its prime mission. By degrading the enemy's air defense system through jamming of radars, it enhances the effectiveness and survivability of strike aircraft.

Dollars for scholars

Bob Yorke, manager of Employment Development, traveled to his alma mater, Morgan State, a couple of months ago to present two of the students there with a Company scholarship. The grant, which is limited to former Grummanites or dependents of present Company employees studying business or economics, is for a total of $3,300 to each student. First winners of the award are Ivory Tucker, a former Grummanite, and Eva Jessup, daughter of Cora Jessup of Plant 2.

OBITUARIES

Plane News has received word that death has come to the Grumman personnel listed below. We extend sincere sympathy to relatives and friends.

WALTER DOUGHERTY of Facilities Maintenance, Plant 2, died January 25 at the age of 53. He had been with Grumman four years, and he lived at 37 Division St., Westbury.

LEONARD DOUGHERTY JR., 49 years old and with Grumman for 25 years, died February 4. His department was Product Manufacturing Administration, Plant 2, and he lived at Stathaven, Apt. 1B, Glen Cove.

LILLIAN M. PELZER of Electronics Repair, Plant 33, died February 5 at the age of 53. She had been with Grumman since 1966. Her home was at 1506 Gilford Ave., New Hyde Park.

WASH JOHNSON of Plant 18 Plant Protection died February 18 at the age of 50. He had been with Grumman three years. iHs home was at 203 Rhodes Ave., Hempstead.

Kojick, Yasinski find ideas pay off in rich bond jackpots

It's nice to think up an idea that pays off, say $1,150 in Bonds. It's even better when you rake in three awards for three different suggestions—and end up with $2,300!

Well, that's just what happened to Plant 12's Frank Kojick, leadman in the Materials Test Lab. He's naturally happy about it all. But what led to the suggestions was a different kind of feeling: annoyance—to put it mildly.

His annoyance is not with Grumman. He says that "the Company has treated me very well," and after 18 years here, who's to dispute it. His peeve grew out of a specific problem, that there were variations in the size, thickness, etc., of specimens to be tested, and the specimens had attachment holes of varying size. For example, a Baldwin tension-test machine has a two-inch-diameter attachment hole, but a particular test specimen might have a hole 1½-inch in diameter.

"It used to be that we'd have to fabricate a new fixture for any attachment hole smaller than two inches, because most of the time you couldn't find one of proper diameter," Kojick explains. The solution seems simple—now that it's been done: "I made a 'kit' of slip bushings and pins of various sizes and hole diameters. The same thing can be done for other test machines."

The idea eliminated link-manufacturing time, conserved storage space, and saved both time and money.

Kojick also got $750 in bonds for suggesting an electronic recording-averaging deflectometer fixture for tension-testing metal specimens, plus another $400 in Bonds for designing a multiple center-point punch to get precise measurements of test specimen stretch. Not a bad month's work!

'Eureka'

The bright idea light also switched on for Gene Yasinski, leadman millwright in Facilities Maintenance, Plant 14. There was a dramatic cost-time saving in this one, too. Instead of paying $400 a day for the use of a 100-foot boom crane to lift an A-6 radome free of the east tower of Plant 14, Yasinski devised a net sling that made it possible to do the job with the Plant's existing crane-hoist. That also cut job-time from five or six hours to about one hour. Bond total for that was $950.

A $650 Bond award went to Bob Kell, Quality Control inspector, who got the idea of purchasing an AN-fitting flare polishing kit so as to restore flares for LM Ground Support Engineering. Earlier, the practice had been only to clean the fittings — which often led to unnoticed helium leaks.

Mention must be made, too, of a second $400 in Bonds award: This one goes to Frank Dini of Verification and Product Support. Dini, by some adroit Hawkshawing, discovered that a vendor was doing unnecessary work on one account that led to excessive costs on the contract. Exit old vendor, enter new vendor. Savings? More than $45,000 in the first year.

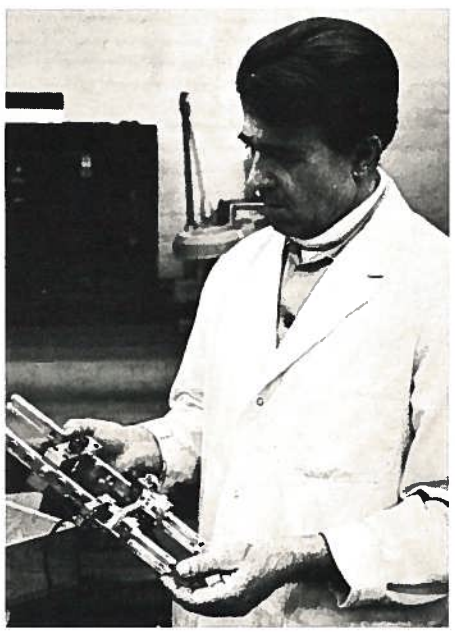
On the list of winners, too, is Tom Cenis (now living in Jeffersonville, Vermont), who dragged down $325, and Charles Martin, keyman-die maker, Plant 2, whose suggestion got him $275. A $250 award went to John Ryan of the Measurements Standards Lab at Plant 6, and there were two awards of $225, one to Joe Lo Cicero of Electronic Beam Welding, Plant 2, and one to Ed Daubel of Grumman Data Systems, Plant 7.

In the $150-in-Bonds category are Lou Corneau Jr., Tool Fabrication, Plant 11, and Jim Bryant, once with QC at Plant 55 and now living in Pooler, Georgia. (Corneau also picked up a $75 award.) Three awards of $100 each went to John Herron, Advanced Support Manufacturing Planning, Plant 35; Alan Kowalsky, Distribution Services, Plant 25; and Tom Lonergan, formerly of LM Final Assembly and no longer with the Company.

The $75 bracket (in addition to Corneau) included Seymour Rosenberg, Repair Control, Plant 12, and Joe LoPresti, Final Assembly, Plant 36.

There were five teams of two, each individual winning $50: John Covello and Al Grillo, both of Man. Industrial Control, Plant 5; Art Trost and Bob Schad, Metallurgical and Chem Lab, Plant 12; Irwin Showalter and Dick Chamberlain, Inspection Department, Plant 58; John Goins of Avionics and Greg Rowell of Electrical, Plant 77; and Bob Barrett of Electro-Mechanical Design at Plant 25 and Ray Terrero, no longer with the Company.

Also $50 bonds went to: Peter Yanul, Tool Fabrication, Plant 2; Carol Smith, Business Development, Plant 5; George Westerfield, Flight Operations, Plant 7; Frank Krepela, also of Flight Operations, Plant 7; Joe Keeling, Hydraulics, Plant 14; Bob Taylor, Machine Shop, Plant 56; and Walt Monroe of QC at the Kennedy Space Center.



Frank Kojick
Ideas earn $2,300 in bonds

Gene Yasinski
Nets $950 bond award

Named to Committee

On February 1 these changes took place in the membership of the Corporate Suggestion Awards Committee, which works with the Corporate Suggestion Office to select the monthly award winners:

Named for additional one-year terms are Bill Voorhest of Opportunity Development, Plant 28 (Committee chairman); Harry Kline, Product Support, Plant 34F; Tim Murphy, Facilities Engineering Administration, Plant 2; Joe Walker, Production Management, Plant 2.

Named to two-year terms, replacing Vice President Larry Mead, Jack Patton, and Vice President Ralph Tripp (whose terms have expired), are Frank Huether, Calibration Management, Plant 12; Bill Lamberta, Manufacturing Engineering Administration, Plant 2; Tom Main Jr., Material & Process Engineering Administration, Plant 12.

Hail, hail . . . **Well, maybe the entire gang's not here, but certainly a goodly portion of the men who work on the F-111 at Plant 36 in Garden City. The get-together marked the completion of the 500th aft section fabricated for the General Dynamics aircraft. (Photo by Harry Prodromides)**

UPI telephoto

Shepard sees moon mission 'smashing success' . . .

(Continued from page 1)

The critical time came at 3:33 p.m. Eastern Standard Time last Saturday. It was then that the LM-8 Antares smoothly docked with the lunar orbiting Kitty Hawk, the mother ship.

From NASA Mission Control in Houston came the voice of Bruce McCandless:

"A big sigh of relief is being breathed around here. All over the world there is."

"You ought to try it from up here," was the response from an Apollo crew member.

At the Mission Support Room in Plant 25, where some 65 or 70 Grummanites had been going about their support-role business in a calm and casual way, there were shouts of joy and applause.

John Devaney, section head for LM Vehicle Systems, reported from Houston's Mission Evaluation Room and summed up the feelings of the Company's people there in this way:

"They're ecstatic!"

Another Grummanite on the scene in Houston, Frank Elliot, deputy assistant program director for LM Engineering, spoke warmly and happily of Antares, remarking that "She did everything we asked her to do."

When the brief moments of jubilation about the docking were over, when a normal and relaxed mood filled Bethpage's Mission Support Room (MSR), there was time to talk, time to assess what—at times—seemed to have been a "hexed" mission. For everything had not gone perfectly. There had been moments when Fate The Jester (as Arthur Guiterman had once titled a poem) had stretched his antics a bit beyond the bounds of humor.

Rain squall

Looking back over the shoulder of time were events that fought the rhythm and excellence of the Apollo 14 mission plan. A for-instance came just prior to launch on January 31, when a sun-filled Florida sky suddenly gave way to a dark, ominous cloud, and a big question: Will bad weather make launch risky or inadvisable? And at the Cape, bad weather could mean that astronauts Shepard, Mitchell, and Roosa would be brought down from their perch in the tower to wait until early March, when the "window" would be right for a launch.

The cloud drifted away, and 40 minutes after the scheduled launch time, the trio of astronauts was on its way moonward.

Then came flight (and moonwalk) problems: one of the 20 cells in Antares' ascent stage batteries indicated low voltage; just before descending to the moon's surface, a false "abort" signal occurred; it took six tries for Kitty Hawk and Antares to dock on their way to the moon; communications were sometimes poor; the objective of getting on the rim of Cone Crater was not achieved; and, after lifting off from the lunar surface for a docking maneuver that would enable the astronauts to fly back to earth, the LM's backup guidance system failed.

And yet, when Kitty Hawk and Antares docked for the journey home, it was believable—thoroughly believable—for Bob Carbee, in charge of the MSR, to say that the lunar mission was "a complete, unqualified success." Carbee is a knowledgable, level-headed guy with a large reservoir of experience. In fact, he's been **the** design man for all LM hardware from the very outset of the program.

Pin-point accuracy

"Just think about what happened," he said. "Think about that landing. It was amazing! It was pin-point, **just 100 feet off target!** How accurate can you get!"

He had company in his evaluation that the Mission was a success . . . people like Bob Ragusa, assistant spacecraft team manager for Electronics, Bill Scarborough of LM Safety, Fred Hyatt, Weight Control, and Harold Wright of the Shuttle program, for instance. And there were hard facts to back up the assessment:

- Never before had so many scientific experiments been set up on the lunar surface
- About 108 pounds of rocks were brought back—a couple as large as footballs
- A "thumper" to send out seismic waves worked 13 of the 18 times it was used and gave scientists more data on the structure of the moon
- A nuclear-powered transmitter and antenna were set up to record moonquakes, assess electrically charged particles, and take data on solar "wind"
- Hand grenade-like charges were used to send vibrations to a depth of 70 feet or more on the moon
- A two-wheeled rubber-tired "rickshaw" was pulled along the lunar surface to make rock- and tool-carrying easier
- A laser retro-ranging-reflector was set up to get better measurements of moon-earth distances

Longest moon walk

In addition—if you go in for records—Shepard and Mitchell were on the moon for 33½ hours. Shepard was also the first U.S. astronaut in space. (By the way, Shepard was outside the Antares for about nine hours and 19 minutes. Mitchell logged a little less time. The first moonwalk, by Neil Armstrong and Buzz Aldrin in Apollo 11, lasted just about 2½ hours.)

So, without question, this LM mission was outstanding.

If you're a believer in the idea that people are as great as the problems they overcome, then this mission scores high. To prove it, take a peek back at the problems of the mission . . . and what was done about them.

Start with the battery problem. Ragusa says, "We were up all Wednesday night (February 3) to get a test written, and we worked the next morning and afternoon to find out how critical the low voltage reading was. We performed a 'load-sharing' test by shorting out one of the 20 cells in the battery. Tests were also being run at Plant 14. We put the battery on line and found it did carry a load, not a full one, but enough. The important thing was i

Going back a few years . . .

.Go back a dozen years . . . and think of Al Shepard, Spacecraft Commander of Apollo 14, who this past Tuesday splashed down in the Pacific along with his fellow astronauts, Ed Mitchell and Stuart Roosa.

Well, back in 1959 he was chosen as one of seven pilots to be trained for what was then called the "man-in-space" project. And he came to Grumman as guest speaker to honor 10 high school students who had won Grumman Engineering Scholarships.

Two years later—Remember?—he became America's first "space man" as he flew a suborbital mission in Friendship 7. The country was on its way into the exciting, productive space field.

Look back, you scholars, and remember Al.

Mitchell, Roosa do, too

wasn't dragging down the other cells. We were okay."

Making sure of that took some 12 hours of prep time and about 10 hours of test time. And as Wright mentioned later, "That battery performed beautifully."

Teamwork pays off

Another puzzler was the "abort" signal. Some 17 Grummanites were brought back to the plant, teams from Kennedy Space Center got busy, and the designers of the guidance system at the Massachusetts Institute of Technology, Cambridge, Mass., set to work. Teamwork paid off: An M. I. T. engineer, Donald Eyles, worked out a way to ignore the spurious abort signal during descent to landing. The phony abort was "cut out" of the program so that the on-board guidance system carried the full responsibility. Then the new program was tested on simulators at Bethpage, KSC, and Houston. Just before the scheduled descent to the moon, the new system was proved out.

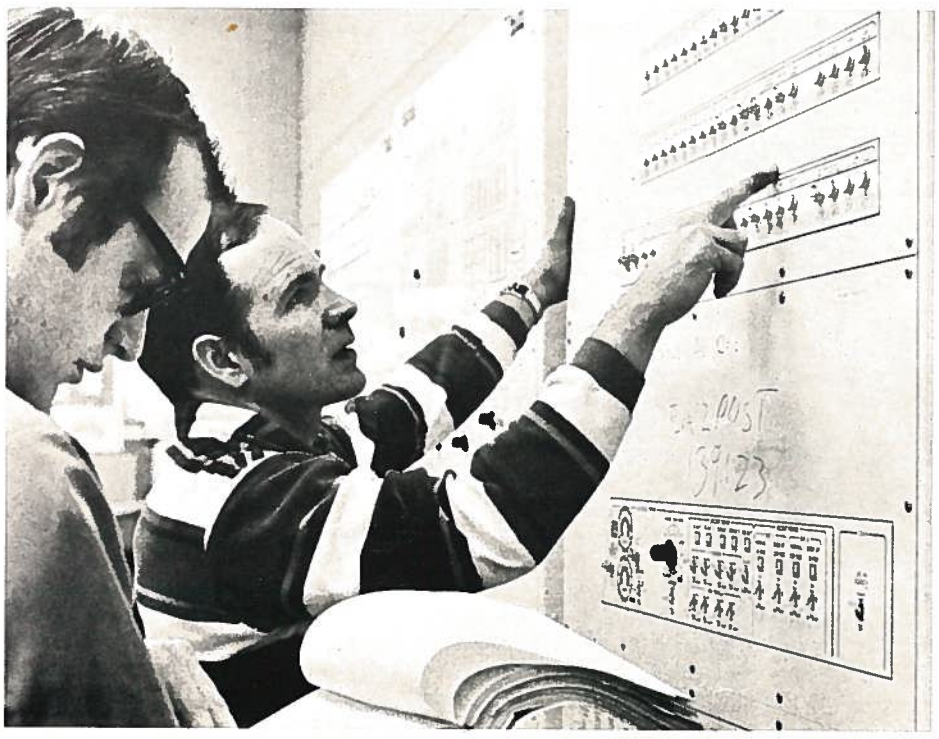
The docking problem was not a problem when the vehicles locked for the return journey; but North American Rockwell will be exploring the "why" of the difficulty—as we'll be trying to find out why the LM backup guidance system conked out. (That, by the way, wasn't crucial. As Devaney explained it, "For all practical purposes, rendevous had been completed when the system failed. There was just 200 feet to go to dock.")

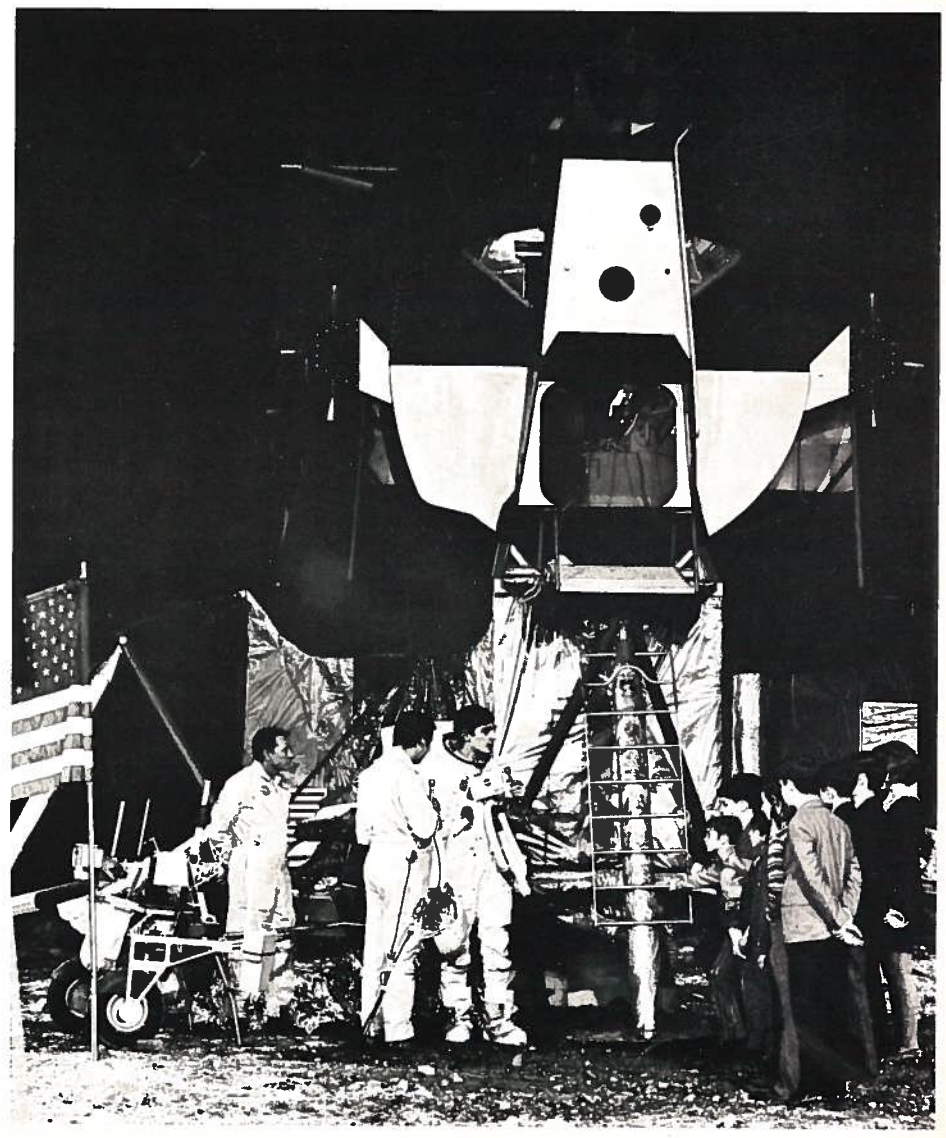
Yes, there had been problems. The key ones had been solved. And as Scarborough observed, pointing to the glitch list, "There weren't many problems . . . maybe a half dozen or so."

Carbee turned philosopher at that point: "Every mission has problems, flight anomalies and discrepancies. You expect it. The important thing is that our space teams keep getting better and better. They know how to respond. I've been in on Apollos 11, 12, 13, and 14, and I've seen the progress—just as others in the business have.

"Sure, it's hazardous, but it's less hazardous—and potentially more rewarding in terms of results—each time around."

'Round-the-clock. **Mission Support personnel (as did others at Grumman) worked around-the-clock in supporting Apollo 14 mission. These scenes from Mission Support in Plant 25, and from CBS television 'moonscape' in Plant 4, were photographed by Fred Annette of Presentations Services.**





Cominski uses 253 to boost own Babylon series record to 684

If there's anything you can bet on in the Babylon Mixed League, it's that Steve Cominski is going to be a tough man to beat for individual honors. Oh, once in a while he lets the other guys get close; he even shares high game of 257 with Pete Jordan.

But high series, that's another story. Ed Gabriel of the Shadows made a run at that mark of Cominski's a couple of weeks ago while racking up 234 and 231 for a 648 total. But in the very next session, Cominski flipped a 253, added 233, and finished with a robust 684, two sticks higher than his old mark.

Gabriel had to take some consolation from a 237, that, added to Bob Ogilvie's 235, Pat Sabatelli's 154, and Roseann Gabriel's 118, boosted his team to a high scratch game of 744. Gabriel finished with 612 in that round, and other high scorers in Babylon Mixed play included T. C. McClee, 229-581; Barbara Rumsey, 465; Pat Sabatelli, 475; and Ogilvie, 573. In the team chase, the Unpredictables went rolling along, scoring a shut out to maintain a comfortable lead over the Shadows. . . . Sid Weihs punched out 213-576 to head the Monday Mixed loop, shading Joe Guissari, who had 208-570. Other highlights were Joe Anckner's 556, Walt Becher's 213-550, Marlyn Scully's 486, and Pat Anckner's 465.

Not as Strangers

For Strangers, they're not doing bad. In fact, they lead the Red loop by a wide margin over the Sterling Four (now there's humility). And helping that cause recently was Joe Vosefski who rolled 244-605 in a clean sweep over the Unknowns in what then was a battle for the top spot. High pin spillers were John Strakosch, 208-217-587; Bob Nielsen, 224-571; Charlie Ballweg, 215-608; and Ray Munz, 209-575. . . . Gene McGrellis hit 541 to share laurels with Millie Camidge's 200-547 in the Woodbury Mixed circuit. . . . Must have been a fizzle on the launching pad. High game in the Rocket loop was George Katz's 205 and high series went to Tom Reilly's 527. Something wrong with the mix, fellas.

Reverse standings

The fickle finger of fate takes some strange meanderings, but it must have come as quite a surprise to the Spoilers a couple of weeks ago to find themselves in last place in the Bethpage Nite Owl loop. What the hell, hadn't they been in first place the week before. Not even John Lindsay has experienced such a swift change of fortune. Well, the Spoilers can thank their sudden demise to an oblique sense of humor of their league secretary. He decided to reverse the listing on one report—so he placed the bottom team on top of the list and worked down to first. So maybe it was only make believe; it did break the monotony of seeing the same club always occupying the top spot in the standings.

Did it bother the Spoilers? Not likely! All they did the next round was get mad: Hank Kwiatkowski fired 257, 224, 652, Ernie Jenkins added 222, 203, and 213 for 638, and Judge Locke hit for 208 and 200 to increase their team's lead over the Bombers. Spoil Sports should be their name.

Is there a moral here? Hank Zembko —and he's been bowling a few years— was ready to throw in his resin bag recently after what he considered a so-so year in the Lunar league. Being off the headpin can get to you, right? Well, like so many of us, Hank probably will hang on a couple of more years, since he snapped the league record with a 622 on a 222 high. Put your resin back in the bowling bag, guys, there's hope for us yet. . . .

"Doing Our Thing" has been rated "S" (that's for successful) by the alley pundits at Patchogue Lanes. What with Joan Burgess flipping 192-508, she sparked her DOTs to high game of 694 to maintain a four-point lead over the Good Friends. Considering it's a mixed league, it's really a mixed bag on their togetherness, too. Doing Our Thing and the Good Friends must really be together — they're in first and second place, right! Then consider what possible chance the Rebels, Odd Couples, Latecomers, and Misfits have. They started out on the wrong foot. Maybe the Velvet Gloves, Groovers, All Togethers, and Kind Hearts would have elicited more humane treatment from the rest of the league. Oh yeah. Norma Landin and Maggie Gaynor had 189-524 and 195-514 to keep the Good Friends in the race, while Marty Larcombe's 552, Dave Struller's 549, and Mike Garett's 532 were other high spots.

Buck hits 266

Oh, that Wil Buck. The Black league veteran came through with 266 (just two sticks shy of Bob Specht's league mark), added 200, and finished with 645 to far outdistance John Stephens' 214-609 for weekly honors. Another heavy hitter was Jim Richter 203-205-591. . . .In the Trader circuit, Charlie Gosline tied Al Moser's high game record with 245 in a session marked by Tom Wright's 224-601.

Thompson heads tryouts

Whoever coined such accolades as "Fearsome Foursome" and "Magnificent Seven" should come up with something similar for Chin Thompson. Here it is tryout time again, and sure 'nough, Chin's leading the women's tryouts, again, this time with a 2164 total after 12 games.

Since Chin is a lady, and ladies don't often care to have mentioned such trivial stuff as longevity on the lanes, suffice it to say that she has led the Grumman's women's contingent to a big, whole, heckuva lot of trophies (with the aid of some other veterans, we hasten to add).

It ain't over yet, of course, but Chin still leads such other standouts as Norma Frey, Bella Miglio, Bertha Siegl, and Arleen Schwemmer. Thata girl, Chin.

Spoilers 'beep-beep' Road Runners, 78-70

The Spoilers and the Transportation Road Runners have been hooping it up with the big round ball for some time now in what is turning out to be a dog-eat-dog sneaker-to-sneaker battle. Each had beaten the other once, and here they were with identical 6-1 records . . . and the titanic struggle of who's best confronted them. Tension, tension!

The lads in shorts and socks and sneakers raced back and forth, a net to the left, a net to the right. At half time it was 38-30 in a see-saw contest, Spoilers up. And when the weary warriors got the final buzzer it was 78-70, Spoilers. Main reason: Five of the Spoilers hit in the double numbers—a pair of 14s (Ron Bartlett, Jim Cruthers), 13 by Bill Diercks, and a brace of 10s (Bill Rathje and manager Ray Schaefer). They needed it, because the Runners ran with two hot guys, Ed Scully who netted 29 and Gary Pike who poured in 20.

They'll meet again, probably in the playoffs.

Bartlett had been the big man with 21 net-swishers as the Spoilers earlier bombed the fangless Tigers, 88-51. Then, too, five of the Spoilers scored in double numbers, although they couldn't contain the hard-playing Bob Hambrecht, who scored a game-high 23.

Hambrecht came back again and teamed up with Walt Gleich to get just enough clawing in their Tiger to overcome Propulsion in a real squeaker, 79-78. Losing has been lifted to an exquisite art by the down-trodden Propulsion squad; they look for ways to blow games—and consistently find them. For example, they had the Tigers tied at 78 with about 20 seconds to go, and they committed a no-no, a one-point foul that cemented their doom.

In the last game of the regular season in the Wednesday league, the Tigers and T. R. Runners fought it almost down to the wire. For two quarters it was Tiger heaven. Then the sky dropped and the Runners had an 86-82 win. Pike and Scully were in the forefront again with 26 and 19 points, respectively. Hambrecht of the Tigers was high scorer with 30 points. These two teams go at it in the first round of the playoffs.

Tuesday-Thursday action saw the Newcomers stow away their sixth straight win as they ran circles around the de-fused Propulsion five, 35-18. Lee Gendron led the attack with 29 points and Bob Scully chipped in with 21.

But cry not for Propulsion. From out of the depths came a thunderous roar: Propulsion 89, Druids 62. Harold Glasband tossed 25 through the high hoop and Larry Hill dunked in 22. For the losers, it was Driver in the driver's seat with 18 points.

And let's go back to the Newcomers, who've won seven straight without a loss. Led by Lee Gendron's 21, they swamped Research, 118-57. Think of the disaster it might have been, though, if Research's Les Brooks had not hit for 26!

Hilbert takes over men's lead as Karen slumps in pin trials

"Oh, those bases on balls," was the way Frankie Frisch put it. "Oh, those missed spares," could well be the lament of a number of disappointed candidates for the men's varsity bowling team.

Although Ed Hilbert leads Frank Tucholski by 11 sticks in competition to determine the starting Grumman five in the L.I. Industrial tourney, the tightest race developed around the 10th and final spot on the men's varsity. Cliff Hartnack closed in 10th after last Saturday's session.

But shed a tear for Vin Crevoiserat and Sid Kaufmann who trailed Hartnack by two and five pins, respectively, and were no more than 16 and 19 sticks away from seventh-place Ike Washington. That's the equivalent of two **missed** spares over a span of 24 games—not much, but just enough. But such are the things that dreams are made—or unmade—of.

Hilbert has rattled the sticks for a 191 average while grabbing the lead after six rounds (that's 24 games) of play, and with the final three-game session coming up this Saturday, starting at 7 p.m. at Mid Isle, his 11-pin edge over Tucholski looks anything but comfortable. Following closely in third place is Bruce Karen, an early leader in the trials, who is now at 4568, 25 pins behind the leader. Rounding out the first five are Mike Greggo, 4508, and Dave Evans, 4479.

Jack Nielsen, a varsity team member a couple of years ago, holds sixth with 4476, Washington is seventh with 4460, and the final three spots are occupied by Ben Plawski, 4449, George Ulrich, 4448, and Hartnack, 4446.

The first five spots are still up for grabs. Following Saturday's session, the top five in total pinfall for the entire 27-game trials will comprise the Grumman contingent in the L.I. men's tourney.

Hilbert's top game in the past session was 221. Tucholski had 201, 213, and 233 sprinkled in his six-game effort, but a 140 in the final game hurt his chances for first. Other high games were contributed by Mike Greggo, 220 and 244, Dave Evans, 246, and Jack Nielsen, 222 and 231. Jack had a 125 in his second game which helps to prove that nobody's perfect.

Do you believe the news media give a balanced and objective view of the news?

Fred Artus
F-14 Fluid Power - Plant 1

Since human nature makes total objectivity impossible, my answer is NO! There is no percentage in pushing the other guy's viewpoint; one's editor may be planning a reduction in force. Generally speaking, reporters tend to report events in a manner which supports their convictions.

Sandy McDonough
Product Support - Plant 5

I think they do. While I do feel that reporters may inject some of their own opinions, they do report the facts. I enjoy reading Good Housekeeping magazine. They have good tips on what to buy and I always read their medical columns. As I don't have much time to shop, I usually check the magazine.

Joe Bisagni
Instrumentation - Plant 1

No, they can't. Editorials are the backbone of newspapers, so reporters will not write stories that will conflict with editorials. If you pick up two newspapers you will read two different stories on the same incident; turn on TV and you get a third account of the same thing. Some papers slant towards favorite political parties. I do read the papers though. I feel I'd rather be misinformed than not informed.

Herman Clark
Inspection - Plant 3

No. I read the Daily News and even the sports column is slanted. And as far as Newsday is concerned, they look to start trouble. They try to stir controversy, create unhappy situations. If something happens that doesn't involve someone in a minority group, they kind of ignore it; but let someone from a minority group be involved and boy it makes front page. They do not report the news accurately.

Dick Richardson
Propulsion - Plant 1

No. Especially Newsday and the Daily News. They withhold news. For example, I was in Vietnam and was loading bombs on planes in the summer of '64. In December of '64 the papers came out with the news that we had started bombing then. They never mentioned that we were bombing in June. Another thing, the happening at Kent State. The papers did not give account of what preceded calling in the National Guard.

Leo Svihura
Inspection - Plant 3

None of them does. In order to get the facts you have to read all the newspapers and catch all the news on TV, and then you get an idea of the facts.

I want to know why the Suffolk Sun was booted out. That paper was diversified. They printed good news and bad and they didn't go just one way. The reporters didn't always agree with the editorials but their stories were still printed. It was a darn good newspaper.

Milillo heads Suggestion Office

"The place won't be the same without Charlie."

This is a statement Joe Milillo is able to live with, because he has so long been associated with Charlie Solarski, retiring head of the Corporate Suggestion Office. Solarski, just winding up 41 years with the Company, is looking forward to some jolly times "before I get too old to enjoy them."

Joe Milillo
Heads idea program

Milillo, a 12-year man with a Bachelor's degree in industrial engineering and a Master of Science in business, has been Corporate Suggestions and Cost Reduction administrator since 1966. He was responsible for setting up the present suggestion procedures that speed Savings Bonds and other awards to those who turn in money-saving ideas or see ways to improve Company procedures.

Joe has been a director of the Bethpage Aircraft Federal Credit Union for nine years and was president for two. He's treasurer of Cub Scout Pack 254, East Islip, and he's active in the Presbyterian church and in the American Institute of Industrial Engineers, L. I. Chapter, of which he is a past president.

After college, from 1953 to 1955, he was in the Army Transportation Corps, from where he was funneled into the Arctic Research Group in Greenland. Found that interesting—and moderately cold (20 below in spring) on the ice cap.

Milillo and his wife, Louisa Mary, live in East Islip. They have four children, nine years to two. During business hours you'll find him busy saving the Company money, Plant 5, Ext. 87311.

Elect Rossoff Fellow in IEEE

Art Rossoff, who had been senior technical staff member on the LM Program and is now on the Space Shuttle Program, has been elected a Fellow of the Institute of Electrical and Electronics Engineers. Art, who has been active in the international engineering group for a number of years, is chairman of the Long Island section of IEEE, an organization of about 4,000.

Art Rossoff

In a letter to President Lew Evans announcing Rossoff's election, John Granger, president of IEEE, said, "This honor is reserved to a limited number of individuals each year who have shown evidence of outstanding and extraordinary qualification and experience in the field of electrical and electronics engineering. Mr. Rossoff has achieved this distinction 'for contributions to the understanding and application of the transistor, and to real-time topographic mapping'."

Art is the co-author of a book, Transistor Electronics, published by McGraw-Hill, and he did intensive work on radar and sonar when he worked for General Instrument Corporation. He has taught in Metropolitan colleges and has been with Grumman for the past three years.

Rossoff received his B.E.E. from the City College of New York and his Master's from Polytechnic Institute of Brooklyn. The Rossoffs live in Huntington Station and have a married daughter, a son in college, and another son in high school. He will be honored March 24 during the 1971 IEEE International Convention in New York City.

Note from Presentations . . .

Presentations Services has mailed cards to all departments that have audio-visual equipment on loan. The cards should be filled out and returned to Ed Anderson, Presentations Services, Plant 5, so that all equipment is put on periodic maintenance and repair service.

If you haven't as yet received such a card and your department has equipment from Presentations Services on loan, or if your department owns audio-visual equipment, better call Ed to get yourself on his list. His number: 84858.

. . . and Scholar office

Application forms and information on the Grumman Tuition Reimbursement plan are available at Employee Services offices, engineering counters, base administration offices, and in Personnel, Plant 28. Deadline for filing for tuition reimbursement is 15 days after your school's last registration date.

Completed applications should be sent to Tuition Reimbursement office, Dept. 327, Plant 38. Don't forget that deadline.

at your SERVICE

This is a free service to Grumman personnel for non-commercial advertisements, accepted on a first-come, first-served basis. Classified advertisements are carried in PLANE NEWS only on the basis that everyone replying to such advertising will receive fair and equal consideration regardless of their race, creed, color, or national origin.
Type or print ad on form available at Employee Services and Engineering counters, and send via interplant mail to PLANE NEWS, Plant 5, Bethpage. List home phone (with area code if outside Nassau or Suffolk). Limit: one ad per person per issue. No item under $10, no firearms or ammunition.

Ride Wanted

WHITESTONE: & Throgs Neck Bridges to Plt. 35, 8-4:30 p.m., or start car pool. 212 423-4097.

Car Pool

RIDGEWOOD: Glendale area to Plt. 34 complex, 8-4:30 p.m. Ray Thek, Ext. 87235.

OAKDALE: To Plt. 7, 8-4:30 p.m. LT 9-3530.

NEW JERSEY: Via G.W. bridge to Bethpage. 201 385-1506.

Riders Wanted

ISLIP: Bay Shore area to Bethpage plts., 7-4 p.m. JU 1-7826.

Wanted

APT.: Unfurn., gnd. fl., vic., Lindenhurst, Babylon, 2-3 rms., nr. stores, transport., for elderly woman. 584-6114.

APT.: 3 rm. for yg. cpl. PE 1-3123, after 5.

TIRES: Used Indy type rac. &/or used sand tires for Dune Bug. JU 8-2141.

APT.: Eastern Nassau or western Suffolk, for yg. bus. couple. AN 1-9253.

LOVE SEAT: Sofa bd. 538-6406.

BOAT TRLR.: For 17½ ft. boat. Don Botway, Ext. 9412.

ENG.: 3 hp outbd. in run. cond. 929-4021.

MISC.: Stud. snow tires, 7.75x14; '68 Opel Kadett auto manual. Ed Montanez, Ext. 86918.

HANDBK.: Mech. Eng. by Marks. 735-7370.

VOLVO: Or Duster, '66 or newer, gd. cond. HR 3-6061.

ARM SAW: Used Sears radial w/access. 751-5819.

RID. MOWER: Tractor, 7 to 10 hp. JU 8-6553, after 5.

WHLS.: 14 in. Rally II for Pontiac. 234-8310.

APT.: Bethpage or Farmingdale area, from 6/1, 2 fam. house pref. JU 4-7033.

PARTS: For '68 VW Bug, left hand door, fender, pass. seat, blk. MO 9-1882.

ENG.: Marine outbd., 7 hp approx., late mod. 732-1950.

TIRES: 560x12 for Simca. TU 8-1332.

FORD: '62 & up, gd run. cond., reason. AT 6-0279.

HOUSE: Sma. 2 bdrm. to rent or w/option to buy, Massapequa to Bay Shore vic., reason., March/Apr. occup. 598-2247, after 5.

APT.: To share, Babylon vic., secy. will share cost with woman w/apt. Sherri MacAaron, Ext. 86775.

HOUSE: Dix Hills area, $25,000 to $35,000, must be in gd. repair. HA 3-1531, after 5.

TIRES: 855x15 w/w, gd. cond. 223-2954.

For Rent

HOUSE: Hicksville, furn., 3 bdrm., liv. & din. rm., open porch, 5/1 occup., $350/mo. PY 6-8909.

SKI CHALET: New, slps. 10, 3 bdrm. & dorm, firepl., all elec., base of Stratton Mt., Vt., Golden Triangle area, gd. access., avail. bal. of ski season. IV 1-9549, evgs.

ROOM: Pvt. ent., gent., $20/wk. OV 1-7486.

ROOM: Farmingdale, furn., pvt. ent. & bath. MY 4-2059, after 4.

APT.: Furn., Old Bethpage, 1 bdrm., liv. rm./kit., pvt. ent., suit. one. MY 4-7229.

SKI CHALET: Hunter Mt., comp. furn., slps. 6, 1 mi. from Ski Bowl, reason. 212 IL 8-8093, after 6.

ROOM: Lrg., sunny, suit. 2, gent. pref., pvt. ent. & bath, pool, conven. to all Bethpage plts. 931-3169.

SUMER COTTAGE: E. Hampton, 3 mi. harbor, wk. or mo. PY 6-8369.

ROOM: Hicksville, pvt. home, gent. pref. WE 5-2466.

TRLR.: Camp. tent, slps. 4, $15/wkend, $6/day. CA 1-3625.

SKI CHALET: Killington, Vt., 4 bdrm., slps. 8-10, 5 day/wk., 1-5 skiers accom. on wkends. RO 6-0372.

HOUSE: Rocky Point, 2 bdrm., furn., nr. Village, gd. sch. 929-4643.

HOUSE: Nesconset, 2 bdrm., 1 acre, air cond., carpet, $275/mo. 724-0801.

APT.: W. Babylon, 4½ rm., gar., conv. locat., couple only, security, $170/mo., util. not incl. 587-9486.

ROOM: E. Meadow, lrg. furn., pvt. ent., bath, TV, nr. shop, ctr. & trans., gent. only. 333-7849, after 4:30.

For Rent

APT.: Male to share furn. apt. in Westbury w/2 Grummanites, sun deck., TV, liv. rm., kit., closet space, 2 bdrm., nr. Grumman, $20/wk. Ed Fischer, Ext. 3351.

ROOM: E. Meadow, gent., references, furn., pvt. ent. & bath, linens, $25/wk. 538-5084.

ROOM: Glen Cove, 15 mi. Bethpage, pvt. bath, kit. & laundry priv. avail., gent. pref., $85/mo. OR 1-4083.

HOUSE: Ski/summer, Weston, Vt., 3 bdrm., nr. Magic, Okemo, Bromley, Stratton, 5 day ski wk. spec., wkends. 212 291-4891.

ROOM: Bethpage, pvt. bath & ent., kit. facil., ½ mi. from plts. WE 5-3821.

Adoption

PUPPIES: Mixed breed, male or fem., born in Dec. PA 7-5848.

DOG: Terrier/poodle, 4 yr., spayed, shot, gd. watchdog & w/child. 265-2774.

PUPPIES: Mix breed, mother Siberian husky, male & fem. HA 3-4107.

For Sale

VW: '66 Fastback, snows, $950. 921-3076.

FORD: '61 T-Bird, 390, 300 hp., full pwr., 2 new tires, exh. sys. & bks., transmission slips, $350. 234-0780.

CAMARO: '69, 2-dr. hdtp., wh. w/blue vinyl tp., R&H, air cond., pwr. steer. & bks., chrome whls., sport stripe, wide ovals, tint. gl., V-8, 350 c.u., tri pwr. Offenhauser carbs, Turbo trans., cons. 667-8571.

VW: '69 Karmann Ghia, 36,000 mi., new bks., mtd. snows, $1,900. 751-2230.

PLYMOUTH: '67 Fury III, 9 pass. sta. wag., pwr. steer., bks. & rear wind., lug. rack, air cond., new tires, $1,750. CH 9-5916, after 5:30.

AUTO PARTS: '65 Ford 4-spd. transmission, used w/big blks., $100. 724-5682.

MISC.: '62-'63 Ford Falcon bdy. parts; new 7:10x15x 6 ply truck tire, $15. 732-1950.

HEAT. SYS.: Hot air, gas, gravity, Bryant 90,000 BTU furnace & ducts, gd. for 4 rms. & bath, $125. 681-7891.

BOAT: '69, 17 ft. Winner, 55 hp Evinrude, trlr., fully equip., ask. $1,850. MY 4-7096.

MISC.: Estey elec. organ, dbl. keybd., 5 octaves, 40 shord btns., ft. ped., vol. cont., wal. fin. match. bench. 37x19x34, $160; Brahms piano, mahog., full keybd., bench, $275. MO 7-2249, evgs.

PIANO: Sma. baby grand, Peek & son, N.Y., ask. $500. 231-7086.

RECORDER: Port. Crown AM/FM radio cassette, mono, record dir. from radio, tone cont., AFC, batt. or AC, $45. GE 7-2086.

STEREO CAB.: Ital. prov., fruitwd. fin., 31-¾x17½ x84, blt.-in-spkr. encl., 3 slid. drs., 2 comp. inside, $250. 543-5786.

HOUSE: Merrick, 2 bdrm. col. brick, 1½ bath, jalousied Fla. rm., lrg. mdrn. kit., fin. bsmt., wlk. RR, bus, schools, shops, 75x125, lndscpd plot, mid 30s. 623-0636.

VW: '60 Bug, $125. 621-3867, after 6.

COMET: '63, 4-dr., rebit. eng., $125. 212 FI 7-6010.

DODGE: '65 Coronet, wh., 2-dr. hdtp., auto., pwr. steer., stud snows, $550. 938-8672, after 5.

HOUSE: Bethpage, 4 bdrm. Cape, 2 bath, bsmt., s-s, w-w, xtras, 5¾% mtge., $16,500 bal., $29,500. 796-8030.

PROJECTOR: DuKane auto. 35mm sound film strip w/remote cont., blt.-in spkr. & turntbl., xtra bulb, $50. 928-1711.

For Sale

FORD: '62 Country Squire, blk. 9 pass., pwr. steer., auto., 2 mtd. snows, $450. LT 9-0737.

MAVERICK: '70, 6 cyl., auto., tint. gl., w/w, R&H, 5,000 mi., $1,995. 212 776-5805.

VOLVO: '68, mod. 142, red-blk. int., pwr. bks., low mi., $1,795. AN 5-0658.

HOUSE: Selden nr. Suffolk College, 7 rm. col., 3 bdrm., 1½ bath, den, full bsmt., attach. gar., form. din. rm., fully lndscpd., patio, o.h.w. basebd., ask. $25,000. 698-0097, after 6.

MISC.: Mod. dinette set, swivel chrs., $40; cust. crib, $35; Blt.-Rite coach, $25. 822-2790.

MISC.: 2 liv. rm. chrs.; 2 lamps; 19 in. B&W port. TV w/std., reason. LY 9-0557.

RUG: Braid., 8x11, $40. HA 7-4622.

TAPE DECK: Bell T-213, 2 & 4 trk. hds. 921-3487.

TRAINS: HO, Akane brass (SP) cab forwd., 4-8-8-2, $110. 581-8291.

CHANDELIER: Import. 6 lgt., bronze & brass, 86 crystals, prov., 6 mos., ask. $90. 757-0837, evgs.

CAMARO: Z-28 blue w/blk. vinyl tp., Dougs hdrs., pwr. discs, quick ratio steer., slot. mags on rear, posi, AM-FM, $2,495. PE 1-5464.

DODGE: '66 Monaco 4-dr. hdtp., full pwr., low mi., xtras, best offer over $1,100. 691-5158, after 6:30.

CORVETTE: '68 silver grey conv., 427 c.i., 390 hp, $3,000. WE 5-1109, after 4:15.

FISH TANK: 10 gal. comp. setup, std., tank, glass gravel, outside filt., pump, heat., plts., reflect., $20. 423-7838.

PROPERTY: Flanders, 2 mi. E. of Riverhead, 16, 50x100 lots, wood., ½ mi. to Peconic Bay for pvt. beach & boat.; elec., phone, rd. access, $399/lot. LT 9-6203.

CAMERAS: Used, some w/flash, $50 or best offer. 732-7232, after 6.

SKIS: Head 360, 210cm lg., w/o bind., ask. $55. 744-5087.

SKI BOOTS: Sz. 10, dbl., quick lace, $15. Pete Martin, Ext. 2241.

SKIS: Hart Jubilees, 200cm, will trade for equiv. qual., 190cb ski. 868-3497.

BOOTS & SKIS: Head 360, 190cm, $85; Henke 5 bkle. boots, sz. 10, $30. PY 6-4019, after 7:30.

COKE MACH.: On whls., 6 select., $285. 249-8284, bet. 8-6 p.m.

PUPPIES: Welsh terr., AKC, 6 wks. old, $150 ea. 423-3596.

POODLES: Wh. mini, AKC, reason. 798-7847.

PUPPIES: Golden retriever, AKC, born 11/24, $100/ea. 775-5179.

PUPPIES: Great Pyrenees, due 3/1, Basquaerie lines & type, fem. has best-in-match 12-18 mo., male has 5 best-of-breeds, pups rdy. May. 305 287-5565 (Fla.)

BOAT TRLR.: '70 Tee Nee, mod. 1400s, 18 ft. 6 in., cap. 1,400 lbs., $260. 692-4664.

MISC.: Corner cab., $25; reading mach., $90; 2 snow tires, 750-14 on rims, $20/pr. CH 9-9344.

AIR COND.: Fedder, 7,000 BTU, 115VAC, 12 amp., $75. 212 454-6860.

CORVETTE: '60, 327 c.i., Holly 850 carb, dbl. pump, 4-spd., hdtp. & conv., blue metal-flake, tape deck, 411 rear, 4 chrome rev. rims, $1,050. 766-9884, 7-5 p.m.

HOUSE: Brookhaven Hamlet, 3 bdrm. col., form. din. rm., mod. kit., lrg. fam. rm., 2 bath, 2 zone h.w.h., appli.. nr. bay, taxes under $500, gar., carport, 150x102. AT 6-3576, after 5.

RUNABOUT: 16 ft. Starcraft w/'68 33 hp Johnson, spdometer, gas tank & line, reclin. seats, cust. whl., cont. & cov., $625. OR 6-5801, after 5.

BOAT: 11 ft. alum. Sears Jon, Ted Williams 7½ hp outbd. Bob Wesnofske, Ext. 7271.

For Sale

CHEVROLET: '60 Impala. 6 cyl., std. shift, 4-dr. sed., R&H, nds. batt., $100. 799-1052, after 6.

CHEVELLE: '68, 2-dr. Malibu, pwr. glide, blk. vinyl tp., pushbtn. radio, rear spkr. & antenna, posi., rear defrost., new w/w & bumper guards, $1,695. 822-2936.

MISC.: Port. fold. crib/playpen (wood), adj. hgt., 24x48x21, no matt., $10. E. Manaker, Ext. 1455.

SNOW BLOWER: 20 in. self prop. Storm King, 3 hp Briggs-Stratton, $50. 921-1895.

MOVIE CAMERA: Bolex H-8, 200 ft. cap., Yvar 13mm 1.9, Pizar 5.5m 1.9 W/A, Yvar 36mm 2.8 tel. conv. filt., trigger handle, cust. case. SU 5-1248.

MISC.: Miranda FV for spd. graphic 8mm Keystone, access. lenses, Revere 85 proj., lgt. bar, screen for 35 mm w/R.F., or trade for enlrger/drkrm. equip. MY 1-2906.

RAMBLER: '65 Amer., auto. GE 3-7747.

STARFIRE: '65, all pwr., ctr. cons., low mi., $1,000. 757-2042.

CHASSIS: '70 Starcraft Starmaster comp. w/bks. & whls., $150. JU 4-6633.

RIMS: 14 in. Ford, $10/pr.; Rambler Amer., $10/pr. MY 1-5948.

MISC.: Craftsman mod. 10 AM/FM tuner & mod. 500 amp., $40. 234-8310.

HOUSE: Fr. Normandy Tudor, Hempstead, firepl., form. din. rm., bkfst. rm., 3 bdrm., 1½ bath, fin. bsmt., porch, patio, attach. gar., upper 30s. IV 6-1716, after 5:30.

BOAT: 14 ft. alum., J.C. Penney trlr. w/winch, 2 new spares incl. whls. for trlr., no motor, ask. $250. 589-9126.

CARPET: 40 yds. beige wool pile, $60. 997-8565.

BKCASE.: Mahog., refin. 765-2114.

WASH. MACH.: Norge, hvy. dty., mult. cycle, less than yr., $95 or swap for TV. 367-4118.

MISC.: 2, twin bds., 39x80, firm matt., $65; liv. rm. prov. chr. HA 7-7635.

MISC.: Crib, match. dress., access., baby tenda, play pen, port. crib. carr. 724-3854.

MISC.: Edison crib w/matt., port. carr., port, stroller, hi-chr., bath tub, sterilizer, car seat, best offer. 333-3820, after 6.

CHEVELLE: '70 SS, 396 - 350 hp, blk. on wh. int., 4 Krager mags, F70 wide oval Firestones, AM/FM stereo, heater, 4-spd. cons., bkts., 4:11 posi, Hoad lock & lug locks, best offer. 681-7804.

PIANO: Spinet, tan oak, $250. 212 523-8805.

SKI RACK: Trk. mt., fits all cars, holds 2 skis, blt.-in lock. 822-4538, evgs.

TV: 14 in. G.E., B/W, $30. 543-2423.

GTO: '64, 389, 4-spd., posi, mags, Holley-hdrs., pwr. steer. & bks., $875. HA 1-3479.

MISC.: Ping pong tbl., comp., $20; Danish mod. end & cocktail tbls. IV 3-2918.

TYPEWRITER: Royal port. w/case, $35. MY 4-7890.

DOOR: Pre hung mahog., all hardware, 30x80, $18. 265-8565.

plane GRUMMAN news

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Editor
Brian Masterson

Associate Editors
Claire Imrie
Al Wehren

Ads, Distribution
Dorothy Zeeb

Official Photographers
Presentations Services

Telephone
Plane News: 3293
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For Sale

CHEVROLET: '69, 9 pass. Kingswood sta. wag., 327, V-8, std. synchro, pwr. steer., snows, roof rack & carrier, xtras, $2,450. JU 1-0403.

DODGE: '64 Polara conv., V-8, auto., 98,000 mi., no oil, one owner. HU 2-1566, 8-9 p.m.

CHEVROLET: '65 SS, wh. w/blk. int., bkt. seats, 327 c.i., dual exh., 300 hp, 4-bbl. carb., 4-spd. w/cons., radio w/front & rear spkrs., 4-deep dish chrome whls., 4 Goodyear poly wide oval F-70, Town & Country mtd. w/w snows, 4 hvy. dty. shocks, new hvy dty. clutch. IV 9-3492.

CADILLAC: '65 de Ville conv., blue w/wh. tp., full pwr. climate cont., low mi., $1,700. 623-1049, after 5.

PICKUP: '50 Ford ¾ ton w/mtd. lift. hoist, best offer. MO 9-7714, after 6.

TIRES: Goodyear, 6:95x14, B/W, set of 4. 212 SY 2-2584.

TRLR.: Hvy. dty. A frame, 14x4 bos bdy., sgl. axle, hvy. dty. Goodyear 16 in. tires & spare, $200. AN 1-6404.

MISC.: '68 Ducatti, 160cc, 2,000 mi., $275; 200w tp. cust. amp., 2, 15 in. Jensen spkrs., $300; Gibson guitar & case, $335; yellow sunburst, dbl. pick up, $25, both $500; 19 ft. Clayton skiff, Navy tp., recent. o'haul, inbd. 90 hr. Grey, best offer over $100 or trade for smaller boat. CH 9-7817.

MUSTANG: '66 GT Fastback, 4-spd., new disc bks. & muff., 56,000 mi., xtras, $1,200. 289-3572.

COUGAR: '68, pwr. steer., $1,795. MA 6-0835.

CHEVROLET: '64, 2-dr. sed., R&H, auto., 6 cyl., snows, $300. 694-7555.

CAMPER: '70 Starcraft, $1,100. JU 4-6633.

HOUSE: Farmingdale, cust. 7 rm. ranch, 3 bdrm., fin. den, gar., air cond., w-w, appli., $35,990. CH 9-1023.

HOUSE: Smithtown/Nesconset 9 rm. hi-ranch, 4 bdrm., 1½ bath, fin. rec. rm., gar., s-s, w-w, o.h.w. 2 zone, wood. ¼ acre, deck, fenc., non-devel., $30,500. 724-0309.

HOUSE: Massapequa, 4 bdrm. Cape, h.w. heat, 2 bath, gar., 18 ft. kit., full din. rm., fin. bsmt., xtras, $35,000. PY 8-0321, after 6.

HOUSE: Laurelton, 8 rm., 3 bdrm., new heat. sys., s-s, low tax., nr. RR & bus., xtras. LI 1-2102.

HOUSE: Commack, 4 bdrm. col., 2½ bath, lrg. liv. & din. rm., fam. rm. w/firepl., 2 car gar., full bsmt., w-w, s-s, eat-in-kit., fenc., $43,500. 543-3732.

POODLES: Wh. mini, AKC, sire/dam show winners, $125. 732-3552.

PUPPIES: Labrador, AKC, male $100, fem., $85. 757-1395.

COUNTER TP.: New formica corner pc., 75x57 at right angles, cut-out for sink, wh. marble patterned, best offer. PY 6-4295, evgs.

MISC.: Zenith B&W '60 cons., $50; studio couch, 3 chrs., $25. CA 1-7242.

GTO: '68, 4-spd., gages, pwr. steer. & bks., nds. some work, $1,400. CH 9-4095, bet. 6-8:30 p.m.

OLDSMOBILE: '67, 442, auto., cons., 2-hdtp., V-8, pwr. steer., bks., wind., & antenna, Rkt. Rally Pac 4-4-2 perf. pkg., low mi., $1,500. 212 672-8408.

JEEP: '62 Universal w/canv. tp. & snow plow, 4-whl. drive, $1,200. 249-8284, bet. 8-6 p.m.

MINI-BIKE: '70 Cheeftah Scrambler, 4 hp, 4 cycle, auto. sure-stop bks., 14 in. traction Knobby tires, Merc. auto. clutch, gen. lgt., front spg. susp., cust. Mag whl. hubs, kickstd., $130. 249-7281, after 4.

HOUSE: Islip, 4 bdrm. cust., 2 bath, 2 car gar., all brick & cedar, fin. playrm., 3 zone basebd. o.h.w., plaster, cov. slate patio, 100x100 treed, lndscpd., priced to sell. JU 1-9332.

HOUSE: S. Setauket, 3 bdrm. ranch, fin. bsmt., gar., fenc., all appli., 3 Village sch. dist., $24,990. 928-1692, after 5:30.

HOUSE: Huntington, 3 bdrm., 1½ bath, split, playrm., form. din. rm., gar., ¼ acre, dishwash., air cond., dryer, low 5¾% mtge., $33,500. 423-4888.

DINETTE SET: Hodor, oblong tbl., 4 cane hi-bk. chrs., gold vinyl brocade uphol., $285. CH 9-4095.

MISC.: Studio couch, $35; pine coffee tbl., $45. 826-3899.

MISC.: Wal. din. rm. set, inlaid tiles, 3 leav. to seat 14; bdrm. set, blk, 4 capt. dress., ngt. chest, 2 twin hdbds., wal. bar on bench; 2 pc. circular couch; lrg. wh. trip. dresser, 9 dwrs.; marble coff. tbl. on wr. iron base, reason. MA 3-0636.

MUSTANG: '65, 2+2 Fastback, 8 cyl., 289 c.i., auto., pwr. steer. & bks., air cond., tape deck, R&H, $995. 543-0861, after 6.

VW: '68 Bug, radio, under 26,000 mi. BA 3-6257.

CADILLAC: '64 Coupe de Ville, full pwr., auto. dim., air cond., xtras, $850. GR 5-6129.

VW: '63 w/sun roof, $375. 368-3457.

For Sale

MINI BIKE: $70. 732-1059, after 6.

HOUSE: Port Jefferson, 4 bdrm. Cape, firepl., 2 bath, 2 car gar., lndry., fam. rm., $44,500. 473-6428.

HOUSE: Stonybrook-Strathmore, 4 bdrm. Cape, 2 bath, w-w, s-s, patio & walk, 2 car gar., appli., $29,900. 751-1577.

PROPERTY: Sullivan Co. nr. Liberty, wood, acres, water, power, paved rd., up to 20 acres avail. at $600/acre. 744-6903.

SAILBOAT: 19 ft. Lightning fbgl., fully equip. w/xtras, $1,700. LT 9-6203.

CHEVROLET: '70 Kingswood Estate 9 pass. sta. wag., fact. air, pwr. steer., disc bks. & rear wind., V-8, w/w, rear wind. defrost., lgt. group, remote cont. mirror, 8,000 orig. mi., $3,600. 585-6933.

JAGUAR: '68 XKE roadster, 27,000 mi., wire whls., AM/FM/SW radio, $3,100. 762-2738, after 6.

CORVETTE: '67 maroon conv. w/blk. tp., 327 c.i., 350 hp., 4-spd., posi, AM/FM, 4 new poly tires, 26,000 mi., orig. owner, $3,100. 757-1363.

HOUSE: N. Lindenhurst, 3 bdrm. ranch, maj. appli., full bsmt., o.h.w., attach. gar., xtras, $22,500. 884-7740.

SEW. MACH.: Federal port. w/14 attach., instr. bk. & case, $20. 665-7816.

STEREO: Sears port., auto. rec. player, detach, spkrs., woofer & tweeter, $35. 328-3523.

HI-FI: Fisher 500T, 90w solid state FM stereo receiver, $175; University 3 way spkr. sys., $100/pr.; tape recorder, $15. LT 9-6203.

LENSES: Nikor telephoto, 85mm, $125; 30mm, $175, never used. 744-9339.

BICYCLE: Schwinn, boy's 24 in., $15; mini car race setup & 3 cars, $10. 277-1971.

MOLDS: Ceramic greenware, used. OV 1-3493, 8-9 p.m.

MISC.: 3 saddles & 2 bridles, $80. AN 5-4940.

MISC.: Lea. saddle bags & rack, will fit 250 or 350 Kowaski motorcycle, $30. 536-2992, after 5.

WED. GOWN: Head dress incl., worn once, reason. 669-0061.

COUGAR: '67 drk. blue, auto., V-8, stereo, $1,400. 883-5286, after 5.

VW: '66, 31,000 mi., snows, $900. 261-5783.

CHEVROLET: '67 Impala, 2-dr. hdtp., blue, V-8, auto., pwr. steer., w/w, serv. manual, $1,350. 543-2493.

BUICK: '66 sta. wag., R&H, V-8, air cond., pwr. steer., auto., w/w, lug. rack, $800. 472-2326, after 6.

PONTIAC: '67 GTO, 4-spd., 350 hp, red, vinyl tp., new tires, shocks & clutch, $1,375. 728-0659 evgs.

JEEP: '63 Wagoneer, 4-whl. drive, 6 cyl., $950. 757-3430, after 5:30.

FORD: '29 Mod. A, 75% restored, gd. run. cond.; also '63 Chevrolet, 46,000 mi., stick shift, 6 cyl., new clutch. 589-2294, after 6.

HOUSE: Seaford Manor, 3 bdrm. ranch, den/firepl., w-w, all appli, air cond., fin. bsmt./bar, s-s, fenc. yd., trees, tp sch. dist., xtras, 10 min. from GAC, ask. $35,990. 826-1307.

HOUSE: W. Babylon, lrg. 8 rm. Cape, 2 full bath, full cellar, 1½ car gar., carport & encl. breezeway, xtras, immed. occup., ask. $31,500. 427-5497.

HOUSE: Bohemia, 2 story, 2 car gar., full bsmt., brick w/alum. trim, new above-grnd. pool, tool shed, all tiled new kit., city water & gas, h.w.h., all appli., fenc., approx. 3 acres, 589-2294, after 6.

HOUSE: Setauket, air cond., 3 bdrm. ranch, 2 yr., panel. den w/firepl., brick patio & redwood deck. pool, 6 appli., bsmt., o.h.w., cust. cab. lined kit., xtras, 3 Village sch. dist., $28,900. 751-5791.

MISC.: Bunk bds. w/matt., $50; refrig., $15; 220v iron; record player. SU 1-5730.

STEP LADDER: 6 ft., alum., best offer. 334-0735.

PROJECTOR: Slide, 35mm, T.D.C., w/22 slide trays, $10. 221-6530.

HOUSE: Oyster Bay, wood., 3 bdrm. brick split, fam. rm., 2½ bath, 2 car gar. w/auto. drs., full tiled bsmt., air cond., ful attic, alum. s-s, o.h.w., 2 zone, blt.-in fire alarm, attic fan, 5 appli., xtras, 4¾ mtge., $49,000. WA 2-3860.

APPLI.: G.E. washer & dry., $75/ea.; G.E. refrig., $75; upright freezer, $150. 751-7018.

WASH. MACH.: RCA Whirlpool, 3 cycle, recent. o'haul., $35. 928-1711.

DRYER: Wh., Frigidaire, elec., 220v, $25. AM 4-5689.

LIV. RM. SET: Mediterranean, Ital., sofa & chr., avocado & gold, 6 mo., $300/both. 585-5392.

MISC.: 19 in. Magnavox B&W port., $40; '62 Evinrude 75 hp outbd. w/Unicharger, contr. & elec. pwr. tilt, $695. AN 1-4375.

For Sale

MISC.: Read. mach., $90; bowl. ball, $15; stain. maple corner cab., $25. CH 9-9344.

HI-FI-EQUIP.: Turntbl., preamp, 70w stereo pwr. amp., $25. 289-4863.

FURN.: Spanish prov., 2 pc. Gallery sofa, grn. & gold., 2 grn. crush. velvet chrs., cocktail & end tbls. w/marble tps., gold hang. lamp, 9 mo., $500. WE 8-1960.

VW: '65, new bks., batt. & start. motor, radio, $400. 751-2583.

HILLMAN MINX: '61, nds. start., $170. MO 7-7900.

TRIUMPH: '68 GT6, blue, wire whls., radials, 36,000 mi., ask. $1,500. 541-2341.

BOAT: '60, 18 ft. Shoup Princess, '66, 50 hp Merc. outbd., fully equip., $1,250. PY 8-6382.

MISC.: Propane stove for boat or camp, $12; Norge wash., 2 cyl., 10 lb. cap., $50; lrg. rotisserie, $20. IV 9-7324, after 5:30.

TAPE RECORD: Craig mod, 212, batt. oper., AC adapt., 3¼ reel, auto. record, lvl., $20. 249-5821.

TRIUMPH: '68 TR-250, 24,000 mi., yellow, $2.000. 265-1299.

MOTOR: '61 Mercury outbd, short shaft, 50 hp elec., $145 or trade for big motor. 796-0617.

TYPEWRITER: Royal, std. ofc. mod. w/18 in. carr., $80. 587-0832.

TRANSCEIVERS: C.B., realistic TRC-29, 120v-12v, Lafayette 525, 12v, both 23 channels. LT 9-3034.

MISC.: Bus. prop., ½ acre, Shirley, nr. RR & Wm. Floyd Pkwy, ask. $5,000; 1 lrg., 1 small boy's bike, $15/both. 938-5091.

LIONEL CONT.: RR multi-cont. transformer, Trainmaster type ZW 115v, 60 cycles, 250w, $15. 757-3420.

ORGAN: Learners play by number, 37 keys, 50 chords & music, $75. 694-4288.

PUPPIES: Poodle, blk. mini, AKC, Su-Chan international champ breed., paper train., $100. 271-3164.

For Sale

PUPPIES: German shep., AKC, sable, silver & blk., $100. 584-6454, evgs.

TUXEDO: Blk., jkt. 42 short, pants 38 waist, 30 in. seam, cust., worn twice, ask. $30. 273-9243.

EQUIP.: 2 comp. Heath amateur sta., fix. & mobile w/Gonset conv., Dumont scope 5 in./XYZ in., Eico sweep & RF sign. gens., ARC-2 transceiver, antique radio by Atwater Kent, 6v Motorola radio, xtras, best offer. 796-0617.

PLYMOUTH: '68 Fury III conv., wh., wide ovals, V-8, 318 c.i., new batt., auto., radio stereo tape, lea. grain vinyl tp., xtras, $1,700. 667-5460, evgs.

VW: '63, new low, end & hds., new carb, '66 int., AM/FM, new heat. boxes, snows. PY 6-5320.

CORVAIR: '65 Corsa, 140 hp, 4-spd., new tires, muff., tint. gl., ask. $325. JU 5-8992.

KARMAN GHIA: '68 drk. grn. conv., R&H, poly tires, auto. stick shift, 35,000 mi., 28 mpg, gar., $1,795. HR 3-6061.

DODGE: '68 Charger, 2-dr. hdtp., fully equip., 24,000 orig. mi., $2,000. HA 3-7592.

DODGE: '68 Polara, pwr. steer. & bks., air cond., $1,600. RO 4-4820.

VW: '67 red Fastback, new ball joints, bks., w/w 6.85x15 4 ply tires, full wh. cov., elec. windshield wash., clock, radio p/b, ask. $1,000. 212 523-2502.

JAGUAR: '65, 3.8S sed., ind. rear susp., heat. rear wind., auto., pwr. steer. & bks., AM/FM/Marine radio, paint faded, $1,100. HR 3-3482.

CUTLASS: '68 conv., 3-spd., fl. shift w/cons., pwr. steer., hvy. dty. susp., new bks., Mich X tires, AM/FM tape play., $1,850. 475-0730.

TIRES: 2 tubeless w/whls., 8.25x14, 4 ply prem., less than 1 yr. for '65 Tempest, $15/pr. 543-3760, after 5:30.

CATAMARAN: '66. 20 ft. B-Lion, race equip., trlr., best offer over $1,295. HR 3-6061.

CHEVROLET: '59 sta. wag., 2 snows & whls., new bks., $100. 931-0207.

'What we have here . . .'

Alex Abruzzo of Product Support, Plant 30, feels pretty strongly about the question "Do you believe the news media give a balanced and objective view of the news?" he submitted to Plane News for the You Said It column. About his own question, Alex says, "No. In general, it seems that the media have labored to cast those of left-leaning ideology in a righteous and approving light, while those anywhere to the right are viewed with opprobrium."

Because his query was selected, Alex earned a set of Grumman glasses, here being presented by Dorothy Zeeb of Plane News.

If you have a question you think would be of general interest, send it to "You Said It," Plane News, Plant 5. If yours is selected for an upcoming issue, you will get a set of Grumman drinking glasses. (You Said It photos by Marie Trimborn)

GDS acquires computer firm, looks to extend commercial sales

Grumman Data Systems completed its first year of operations recently and is now looking toward further expansion of its commercial market, says Pete Viemeister, President of the computer-services subsidiary of Grumman Corporation.

While outlining the Corporation's marketing plans for the coming year, he announced the acquisition of a Boston-based firm, North American Computer and Communications Company and its wholly-owned subsidiary, Computility. "We've been looking for opportunities to broaden our geographic scope," says Viemeister. "This acquisition will help give us additional penetration into the heavily-industrialized Northeast."

Jim Conners, a Vice President of GDS, has been elected President of North American Computer/Computility, and will serve on its Board of Directors with Viemeister; John Carr, Vice President and General Counsel of Grumman Corporation; Bob Nafis, GDS Vice President; and Jim Pettit, GDS Treasurer.

Combined network

Looking at the new acquisition (GDS owns a little more than 89 percent of the stock), Data Systems sees a benefit to both companies. Computility's PDP-10 computer and Grumman Data Systems' 360/67 will provide time-sharing clients a combined computer network with custom services available from both facilities.

The computer-services firm began operating as a corporation in January 1970. The corporate headquarters was located in Melville while the Data Systems Center was being constructed on Stewart Ave., Bethpage, near Plant 35. Initial moves into the new facility are now under way.

Eventually, about 75 percent of GDS personnel and all the computers and associated equipment in various Bethpage areas will be resituated in the Data Systems Center. About a quarter of the people in GDS will continue to work at various sites throughout Grumman Aerospace and in liaison with other firms. The move is expected to be completed before summer, with the transfer of corporate offices to be completed in early March.

The GDS marketing staff, headed by Vice Presidnt Bob Nafis, won't skip a beat as they put their full energies into expanding commercial markets. "We've sold close to a million dollars in commercial business in '70," the GDS President said, "and we're shooting for double or triple that in 1971. We hope to double our commercial business each year; we're looking to hit about $50 million in sales—with about half commercial and half aerospace contracts."

That's some years off, he's quick to admit, but GDS has made inroads into some areas of the commercial market that have proven to be virgin territory in the heavily competitive computer-services field. Credit unions, for example. With the Bethpage Credit Union and the Suffolk County Teachers Credit Union already signed up, GDS hopes to sell the proprietary on-line accounting system to many of the 700 other credit unions in the United States.

After initial success in doing studies for the New York Telephone Company, GDS hopes to expand its information system services to the utility firm to aid the installation, tracking, and location of millions of phone cables.

Over 30 commercial customers are now served by GDS computers, among them AIL, Sperry, Kollsman, and Nassau Hospital. Major areas Data Systems expects to penetrate more extensively in '71 include:

- Computing services (service bureau, time-sharing)
- Industrial services (manufacturing processing, production control)
- Special systems projects (advertised competitive bidding)
- Business services (accounting programs, etc.)
- Education (programming institutes)
- Financial systems (banking systems for co-ops and credit unions)
- Medical services (hospital, medical studies)

"As you can see, we are moving into the commercial field. Our production people handled an increasing workload from both Aerospace and commercial customers during 1970. We're very proud of them," said Viemeister.

The acquisition of North American Computer/Computility, and the naming of Jim Conners as President, has necessitated a couple of other changes on the GDS management framework.

Conners will continue as Vice President of GDS and as a member of the GDS Policy Committee.

To effect closer ties betwen procurement and overall financial management in Data Systems, the Material Department now reports to Vice President Burt Stern, with Al Goldberg continuing as director of Material.

New assignments

Vice President Walt Wood comes in for some new assignments. In addition to his present duties, Wood now has responsibility for Systems Evaluation and Development, Computing Operations, ATS (Automated Telemetry Station), and Business and Technical Systems.

Data Systems, a pretty big boy as corporations go when it was spun off by Grumman Corporation as a computer-services firm, is not looking to stand pat. Its biggest and best customer is Grumman Aerospace. But Viemeister and his energetic crew at GDS are running hard to improve their quality and reputation in the tough computer field, and become as internationally well known as their big brother, Grumman Aerospace.

New facility. GDS personnel and computer equipment are on the move into new Data Systems Center on Stewart Avenue in Bethpage. Corporate offices are scheduled to be resituated by early March. (Photo by Fred Annette)

Fuller, two-time winner of Bendix, applauds Mallard

Frank Fuller

Frank Fuller, who twice won the Bendix Trophy for fastest cross-country time in the National Air Races, still flies at the age of 69. His personal plane is a Grumman Mallard amphibian. Writing to Bill Schwendler, Chairman of the Executive Committee, Fuller said,

"My Grumman Mallard (J-8) had its 24th birthday yesterday, and it is approaching the 5,000 hour flying mark, in the 24 years I have owned and operated it. I consider it the ideal plane for a 69-year-old pilot — no bad characteristics and very forgiving."

In 1937 Fuller at 36 won the famed Bendix Trophy for best time between Burbank, Calif., and Cleveland, Ohio. His new all-metal Seversky P-35 set the record at 258.2 mph. In 1939 he won again, breaking his '37 record with an average 282.098 mph. The Seversky was a glistening metallic blue, highly waxed and polished and a subtle ad for Fuller's business: Fuller Paints.

Still flying his 24-year-old Mallard, which he bought from Grumman in 1946, Fuller now lives in California. Of the 59 Grumman Mallards produced between 1946 and 1951 at Bethpage, his was Number 8. A mighty Mallard, "very forgiving."

On the move

The Grumman Washington Operations office, Plant 50 (Dept. 931), moved recently from Washington, D.C., to Rosslyn—the Virginia end of Key Bridge. Address: Grumman Corporation, 1800 N. Kent St., Suite 1020, Arlington, Va., 22209. The phone number is Area Code 703-522-2600, or if dialing from Grumman-Bethpage, dial 55 and the seven-digit number 522-2600. Vice President Cregg Coughlin is in charge of the Washington office.